DOCUMENT RESUME

ED 221 611 UD 022 219

AUTHOR Goodman, Victor Brian
TITLE Urban Teacher Stress: A Critical Literature Review.
PUB DATE [80]
NOTE 48p.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Educational Environment; Elementary Secondary Education; *Environmental Influences; Mental Disorders; *Personality Traits; *Psychological Patterns; *Socioeconomic Influences; *Stress Variables; *Teacher Burnout; Teaching Conditions; Teaching Load; Urban Teaching
IDENTIFIERS *Stress (Biological)

ABSTRACT

This review of literature on stress among teachers in urban schools examines the stress concept as it is defined in medicine, psychology, and teaching; causes of teacher stress; the nature of the stress response in teachers; ways of coping with stress and the effects of various stress reduction techniques; economic and educational costs of teacher stress; and the impact of teacher stress on students and on society. Among the sources of stress identified are pupil misbehavior; environmental factors such as poor working conditions, poor organizational management, and non-participation in decision-making; personality characteristics; life experiences; interpersonal relationships; and structural variables such as school location, school racial composition, and students' socioeconomic status. The ways in which teachers are observed to respond to stress include illness and other physiological symptoms, burnout, and nervous breakdowns. It is suggested that teacher stress may lead to high anxiety and negative behavioral and learning outcomes among students; that high stress is concentrated in urban areas of low socioeconomic status; and that lowering teachers' stress levels may result in positive educational outcomes for students and favorable effects on society in general. (MJL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED221611

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

VICTOR BRIAN GOODMAN

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

✓ This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

Urban Teacher Stress

A Critical Literature Review

Victor Brian Goodman

UD 022 219

Urban Teacher Stress: An Emerging Policy Issue

There is a clamor arising, an awareness that teaching conditions in many areas have become unbearable. There is evidence that many teachers are leaving the profession, and people who would otherwise enter are not. Some schools in the inner city lose up to 30% of their faculty each year (Bell, 1980).

As major national magazines and television networks produce documentaries on the plight of the urban teacher, or the personal trauma of "teacher burnout," it seems that attention is now being focused on the teacher and her/his right to teach. This issue, has certainly reached a point at which is a legitimate concern for educational policy makers and planners as well as researchers.

Recent trends indicating teacher shortages (especially in urban areas) pose grave concerns over the quantity and quality of teacher which will be available in the 1980's. Teacher satisfaction seems now to be an issue which must be faced, no longer is it a frill in a flooded market. Dissatisfied teachers are leaving the schools and the stressful working conditions and the low pay which many urban and suburban districts provide may not attract competent personnel. It is in that regard that the issue of stress and its effect on teachers be carefully investigated.

What is Stress?

Before we begin to investigate stress, as it directly relates to literature on urban teacher stress, it might be wise to briefly look at some of the various conceptions of stress. We will focus on the conceptions of stress in Medicine, Psychology and then move on to an Educational understanding. This should provide the reader with a basic notion of this ambiguous concept.

The Stress Concept in Medicine

The medical definition of stress arises from the work of Hans Seyle who has done much to bring to the attention of the public the significance of stress, and the impact which stress can have on the body.

Selye defines stress as the "nonspecific response of the body to any demand" (Seyle, 1956, p. 1). The notion of a nonspecific stress response is critical, for Seyle believes "it is immaterial whether the agent or situation we face is pleasant or unpleasant; all that counts is the intensity of the demand for readjustment or adaption" (1974, pp. 28-29).

According to Seyle (1974), stress itself is not an evil; the total absence of stress would be equivalent to death. However, he indicates that stress should be avoided in excess. Unpleasant stress is defined as distress.

The medical work which led to Seyle's stress concept involved the discovery of the "General Adaption Syndrome (GAS)." This syndrome is also described as the Biological Stress Syndrome.

The three stages of the GAS are:

1. Alarm reaction: The body shows changes characteristic of the first exposure to the stressor. At the same time, its resistance is diminished and, if the stressor is sufficiently strong (severe burns, extreme temperature), death may result.

2. Stage of resistance: Resistance ensues if continued exposure to the stressor is compatible with adaption. The bodily signs characteristic of the alarm reaction have virtually disappeared, and resistance rises above normal.

3. Stage of exhaustion: Following long continued exposure to the same stressor, to which the body has become adjusted, eventually adaption energy is exhausted. The signs of the alarm reaction reappear, but now they are irreversible, and the individual dies. (Seyle, 1974, p. 39)

Stress, in the medical sense, involves the injection of adrenalin into the blood stream, resulting in an excitation of hypothalamus which produces a discharge of the hormone (ACTC) adrenocorticotrophic hormone) (Seyle, 1974, pp. 242-243).

The work of Seyle and other medical scientists, and their definition of stress, indicate a clear linkage between stressful activity and diseases of the human body. This stress/disease linkage is of crucial importance to a complete understanding of the true impact stressful employment can have on an individual (i.e., teacher).

The Stress Concept in Psychology

A psychological conceptualization of stress is much more complex than a medical conceptualization. Medical theorists view stress in terms of biological response, a nonspecific

reaction to stress, while psychologists include psychological factors in the stress equation. Whitehorn states:

> Living organisms are specially organized to accumulate and spend energy on their own, discriminately, and not in exact equalities to the forces acting upon them. We take this one step further and recognize the psychological factors which further influence this discriminating Function and appreciate that our difficulties have been geometrically expanded. (Whitehorn, 1953, p. 3)

Stress, from the psychological perspective, tends to be viewed in a more transactional perspective, not as a response isolated from intrapsychic causes or past history. It is, rather, an individual interactive response, specific to the individual and the stressor, for that moment.

The Stress Concept in Teaching

There is even less consensus regarding the concept of stress as it relates to teachers than there is in relating this same concept to medicine or psychology (Kyriacou & Sutcliffe, 1977).

Kyriacou and Sutcliffe, two British educational researchers concerned with stress in teaching, developed a conceptualization of teacher stress as follows:

> Teacher stress may be defined as a response of negative effects such as anger or depression by a teacher (usually accompanied by potentially pathogenic physiological and biochemical changes such as increased heart rate or release of adrenocorticotrophic hormones into the bloodstream) resulting from aspects of the teacher's job and mediated by the perception that the demands made upon the teacher constitute a threat

> to self-esteem or well-being and by coping mechanisms activated to reduce the perceived threat. (Kyriacou & Sutcliffe, 1978, p. 2)

An Introduction to Causes of Teacher Stress

The majority of research on the topic of teacher stress deals with the causes of teacher stress, or identification of stressors (stress causing factors). However, it is generally felt that even the work on identification of stressors is at a very basic level (Kyriacou & Sutcliffe, 1977).

In reviewing the literature relating to stress in teaching, one notes more citations dealing with the issue of school administrator stress, than teacher stress, per se. This issue is addressed by Maslach (1970) who notes "that there may be a bias against consideration of stress in relation to workers, as opposed to administrators." Malinch's theory indicates that one possible reason for a reluctance by administrators to view situational, rather than personal variables (faults of the teacher) as responsible for stress is that consideration of the situational variables may shed some blame on their own actions. Regardless, the literature does seem to reflect this greater concern for stress as it relates to school administrators than teachers.

The literature under review as it specifically relates to stress among urban teachers derives mainly from journal articles, doctoral dissertations and manuscripts.

This review does not attempt to deal with all the causes of teacher stress, a task beyond the scope of this paper. It will rather concern itself with those causes which have been recognized in the literature as being dominant or major causes of stress among teachers. The Chicago Teacher Union Study (1968) alone mentioned at least 36 major stressors or causes of stress. The Teacher Stress Inventory (Goodman,1980, 222-244), upon which his study is based deals with nearly 50 suspected causes of stress among teachers.

Major themes of causation mentioned throughout the literature and which will be dealt with in this review are as follows: (1) the effects of life events on an individual's potential adjustment to stress (an intrapersonal historic predisposition to stress); (2) personality types--an investigation into the implications of psychological patterns which lower immunity to the effects of stress; (3) the significance of school location, socioeconomic status, and the race of students in determining the stress of teachers; (4) the effects of organizational control and management on teacher stress; and (5) the impact of economics on the overall stress of teachers.

Identification of Stressors

Since so much conceptual ambiguity surrounds the concept of stress, actual categorizations of stressors, as compiled by various researchers, more clearly pinpoint how various researchers have come to know stress.

According to Kyriacou and Sutcliffe (1978a), the chief sources of stress center on: (1) pupil misbehavior; (2) poor working conditions; (3) time pressures; (4) poor school morale.

Cichon and Koff (1980) note four basic "clusters of concern." These clusters include: managing disruptive students, being threatened with personal injury, having a colleague assaulted, or being the target of verbal abuse. Cichon and Koff (1980) state that "within the priority one concern category, the dominant themes are violence and student discipline" (p. 99).

Hodge and Marker (1978) identified three basic sets of stressors which they entitled: environmental, interpersonal, and intrapersonal. The environmental stressors included facilities, class load, materials, salary, planning time, interruptions, extracurricular assignments, and faculty morale. The interpersonal stressors included student rapport, colleague relations, principal observations, parent conferences, quarrelsome and inattentive students, and clerical, custodial and paraprofessional relationships. The intrapersonal stressors are those which reflect the internal reality which is the teacher. Aspects of his/her personal life history (life events), physical health, psychological health. Home and social problems also fall into this category (Hodge & Marker, 1978). Goodman (1980) using discriminant analysis in a study of stressors among elementary teachers in the Los Angeles Unified School District demonstrated that

stressors significantly differ for teachers depending on the socio-economic and racial make-up of the student body in question.

Psychological Causes of Teacher Stress

Life Events

The notion that relationship exists between stressful life events and somatic illness was first expressed by Cannon (1929) in his description of a somewhat common occurrence.

> A case of persistent vomiting which started when an income tax collector threatened punishment if a discrepancy in the tax statement was not explained and which ended as soon as [the clinician] went to the collector, as a therapeutic measure, and straightened out the difficulty. (Cannon, 1929, pp. 253-254)

The work of Cannon provided the basis upon which stressful life events came to be associated with changes in the physiological process (Dohrenwend & Dohrenwend, 1974). The connection between stressful life events and physical illness has developed into a full body of literature and what might be described as a "school" in terms of its notions relative to effects of stressful life events on the body (Dohrenwend & Dohrenwend, 1969, 1974; Holmes & Rahe, 1967a; Eastwood & Trevelyan, 1972).

This notion is expressed by Dodge and Martin (197):

> The diseases of our times, namely the chronic diseases, are etiologically linked with excessive stress and in turn the stress is a product of specific socially structured situations inherent in the organization of modern society. (p. 54)

According to Holmes and Rahe (1967a), stress does not actually cause a disease, but it is a mediating factor; it makes one more susceptible to disease. They note that it is not the acute infectious diseases which are related to stress but rather the chronic diseases.

Most studies of life events have used the Social Readjustment Scale (SRRS) developed by Holmes and Rahe (1967b) as the main research tool in the study of stressful life events. Some researchers of stressful life events have used a somewhat modified Holmes and Rahe scale.

The pioneering studies on the effects of stressful life events on human physiology have been replicated and verified by many others in the field (Holmes & Masuda, 1974). Studies of stressful life events have generally found modest but statistically significant relationships between life changes and illness (i.e., sudden cardiac death, myocardial infarctions, accidents, athletic injuries, tuberculosis, leukemia, etc.).

Although initial findings encourage speculations about a direct causal link between stressful life events and the onset of physical and mental illness, Rabkin and Struening (1976) indicate that methodological problems exist in studies of previous life events. Their suggestions for future studies are summarized below.

1. Research designs should mirror the multi-causal interactive concepts of stressful events and human interactions with those events.

2. Research designs should thus increase in complexity and move away from explanation of simple linear relationships.

3. Research should include accurate sampling of life events followed by multidimensional scaling of items sampled.

4. Scales should be carefully examined for construct validity and reliability. (1976, p. 1019)

Notions of life stress are useful to the study of teacher stress as they give the researcher a more accurate appraisal of the type and magnitude of personal stressors a teacher brings to school. Work in life stress also greatly enhances the stress-illness linkage and further accentuates our concern over the physical and psychological effects of educational stressors.

Personality Types

One significant internal cause of stress might be one's internal disposition. Therefore, several studies have dealt with the identification of stress-prone personality types.

The work of American cardiologists Friedman and Rosenman (1974) involved the isolation of a set of behavior patterns which tend to be associated with patients who exhibit "stress diseases," especially those associated with the heart and coronary arteries. They defined two personality types which they labeled Type A and Type B.

Key aspects of the Type A behavior pattern include the following: (1) vocal explosiveness, (2) rapid walk movement and eating patterns, (3) polyphasic thought or performance, (4) self-engrossed behavior, (5) feeling vaguely guilty when

relaxing, (6) don't observe the interesting and lovely in your path, (7) preoccupied with things worth having or things worth doing, (8) chronic sense of time urgency, (9) feeling competitive around another Type A person, (10) habitual pattern of gestures and nervous tics, (11) believe that success is related to doing things faster than others, (12) translate life into a "numbers game" (Tubesing & Tubesing, 1976).

The Type A pattern is, in a sense, a pattern which results in the expression or development of anger or animosity at a relatively low level of frustration.

If certain individuals do have a predisposition to stress or a behavior pattern which is less able to cope with stress-producing factors, the placement of these people in highly tense environments could exacerbate their condition and result in negative physical effects.

In a study initially begun in 1961, Friedman and Rosenman (1974) indicate that persons identified as having the Type A behavior pattern were three times as likely to have a heart attack as those classed as Type B. They further stated,

> Indeed, not one man [with normal blood pressure and without diabetes] exhibiting Type B behavior or a truly normal serum cholesterol [that is, one below 225 mg./100 ml.] has yet succumbed to this disease. (1974, p. 64)

Thus, the Type B behavior pattern is specifically linked to the lack of stress-associated illness, specifically disease of the heart.

One might criticize their distinct division of all individuals into either the Type A or Type B category, for it seems that borderline cases would exist. Other studies might attempt to replicate the work of Friedman and Rosenman, and should carefully consider whether all individuals so conveniently fall into one of the two distinct categories.

In opposition to most teacher stress research, which considers situational variables, personality typing centers on personality variables which create a proneness to stress. Thus, the presence of a Type A behavior pattern, in a certain sense, posits a psycho-biologic predisposition to stress disease. A policy implication of this type of research may be the development of "Stress Education Inserving" for those teachers identified as Type A. These educational remedies will be explained in the section on "Coping" in this review.

Goodman (1980) indicates that suburban schools (high SES) are highly associated with white students, whereas urban schools (low SES) are highly associated with minority students. This condition likely exists in large urban centers other than Los Angeles. Therefore, consideration of race and socio-economic status together seems to make a good deal of sense. It is well known that the urban core of most of our major cities is composed of mainly low SES minorities. It is in these conditions of socioeconomic deprivation that high stress is most frequently reported in the literature.

School Location and Race/Socioeconomic Status of Students

Location of a school and the socioeconomic character of that location are generally viewed as being highly related to the overall level of stress.

Pratt (1978, p. 9) found that

> A two-way analysis of variance showed that while home background (i.e., degree of financial hardship as indicated by the percentage of free meals in a school) was significant in nearly all cases; the age of the children was not. (p. 7)
>
> The data from this investigation shows that home background of children taught is a major and pervasive influence on stress among teachers. . . . This implies that a great deal of stress among teachers is caused through dealing with children who come from areas where there are a relatively large number of financially deprived homes.
>
> The fact remains that in schools serving the financially deprived much more stress is caused by a tendency towards increasing non-cooperation and aggression as children grow older, than is the case in more wealthy schools. (Pratt, 1978, p. 9)

Dealing with disruptive and violent students is consistently mentioned as a primary stress factor in both the Chicago Teachers Union Study (1968) and the New York State Teacher Union Study (1979), as well as in studies by Lowenstein (1975), Cichon and Koff (1980), and Goodman (1980).

Dunham (1977), in a review of studies on the effects of disruptive behavior, finds that "teachers are attempting to cope with learning, disciplinary and emotional problems, which appear to be outside the range of their experience and

teaching skills" (p. 182).

That disruptive students are a major factor in teacher stress becomes even more evident if we concentrate specifically on American studies of teacher stress. In fact, as Gallup (1977) points out, student discipline is at the top of the list of concerns parents have about education. Thus, as previously mentioned, these "priority concerns" appear to mirror the importance the public ascribes to them. Be that as it may, teachers are saying that dealing with problems associated with student discipline is highly stressful (Cichon & Koff, 1980).

Organizational Control and Management

Many researchers have noted the significance that various methods of control and management have in terms of creating a climate which is stressful.

Gmelch (1980) indicates that major organizational stressors fall into the following categories:

1. Work overload. A condition of overwork exists if the work is either too difficult or of too large a quantity.

2. Underload--according to Gmelch, this leads to a condition of demoralization.

3. Job ambiguity--this is a condition in which the teacher is unsure of what this role should be. Should he make a home contact? What is first priority, affective growth or cognitive growth? Is one's first responsibility to the principal or the students? The constant discipline problems which plague many of our schools have left many

teachers wondering it they are really a teacher or a policeman.

4. Organizational structure and the arrangement of that structure can be of major significance as far as stress is concerned.

> The number of hierarchical levels positively correlates with job tension and conflict. One study indicates that 83 percent of staff experienced a great deal of dysfunction when there were six to seven levels between teachers and superiors, contrasted with 14 percent indication of conflict in an organization with only three levels between teachers and supervisors. (Gmelch, 1980, p. 31)

5. Role conflict--managing people and interacting with staff, students, parents and resource personnel provide another area in which stressful conditions may develop.

6. Travel--the distance to and from work, especially in congested cities, can have a major impact on the stress level, or the ability of a teacher to cope with stress. In large urban centers like Los Angeles, auto commutes of up to three hours a day are not unusual.

7. The nature of educational change--the rapid rate and nature of change within the public sector is a major potential stressor. Integration mandates, curriculum and guideline changes, the impact of the introduction of handicapped children into the classroom (PL 94-142)--all these changes within a relatively short period of time require a great deal of flexibility and acceptance on the part of teachers who have very little control in the development of

these policies. They are, however, required to move on them quickly and without question. This rapid change is potentially very stressful.

One somewhat unique and highly stressful aspect of a teaching position is the long interactive phase the job entails. This is especially true on the elementary level. Maslach (1969) notes that "Longer working hours are correlated with more stress and negative staff attitudes only when they involve continuous direct contact with patients or clients" (p. 10). Although the actual "working time" for teachers is not excessive (six hours in most cases), it is nevertheless true that the grand majority of that time is spent in direct contact with the students.

Margolis and Kroes (1974) indicate that non-participation in decision making is the most consistent predictor of job stress.

Maslach (1977), who has conducted research at the University of California, Berkeley regarding staff "burnout" indicates that when organizations view problems as flaws in the character of personnel, without consideration of other possibilities, stress among helping professionals grows.

Burnout research completed by Malinch and others indicates that "helping professionals," already surrounded by many different types of problems and difficulties, are driven into a position of self-blame over their inability to solve problems which in many cases are unsolvable, given the parameters which surround their job.

> Thus by assigning causal responsibility to the helping professional for his or her reactions, the administrator reinforces and maintains that person's tendency to make dispositional attributes to self. (Malinch, 1977, p. 17)

Job Decision Latitute

The relationship between job demand and control over decision-making in that job has created a great deal of interest among those researchers interested in overall job satisfaction (Kornhauser, 1965; Hackman & Lawler, 1971). The concern of these and other researchers has been on the effect that job decision latitude has over the degree of stress produced in a worker.

This issue of job control did not really surface in the teacher stress literature, which concerned itself to a larger extent with the impact of specific stressors. Nevertheless, the issue of the degree of control a person has in his/her job could be of great importance to a complete understanding of stress as it relates to teachers. Teacher control over various intraclass activities likely varies a great deal from school to school or district to district. Job latitude studies of workers other than teachers yields interesting insights into possible factors which may influence teacher stress.

A study by Karasek (1978) on Swedish and American workers found that increased decision-making opportunities are associated with reduced symptomology. The study conversely indicates that constraints on decision-making are a major

problem for both executives and low status workers. Kerchoff and Back (1968) report similar findings, indicating that those in positions with the least decision-making freedom face the most job strain.

Further studies on job demands and the relationship of these demands to decision-making and latitude on the job are warranted, specifically as related to the teaching profession.

Noise as a Stressor

Noise, and its implications as a stressor, is frequently mentioned in the literature. Urban schools are located in areas which result in increasing levels of noise. They are surrounded by traffic noise, and the high noise levels which result from overcrowded schools.

The effect of noise has been demonstrated in many studies. Bull, Burbage, Crandall, Fletcher, Lloyd, Ravenberg, and Rocket (1972), and Ward and Suedfeld (1974) have shown noise to lead to interpersonal animosity. Mathew and Cannon (1975) and Sherrod and Down (1924) indicate that exposure to excessive levels of noise may lead to the expression of hostility and aggressive behavior.

Urban teachers may have very little control over the noise in their environment (i.e., children on the yard, the specific location of their classroom, etc.). Since specific teachers' tolerance of noise levels also varies, the necessity for close placement of classrooms in the inner cities often promotes interpersonal stress as teachers disagree over an

acceptable level of noise. The investigation into levels of noise and its effects on teacher morale and health is an area ripe for research.

The Nature of the Stress Response in Teacher

The Physiological Response

The physiological response to psychological stress has been soundly demonstrated. The discourse on the General Adaption Syndrome (GAS) by Seyle (1956) indicated the intensity of this association. The discovery that objective indices of stress exist (i.e., adrenal enlargement, thymus atrophy, and gastrointestinal ulcers) is the key notion in the mind/body linkage which brings about the concern over excessive levels of stress (Seyle, 1974). Friedman and Rosenman (1974), Seyle (1956, 1974), and many others have noted the release into the bloodstream of ACTH and other chemicals as part of the stress response. High blood pressure, an increased pulse rate and other physical symptoms are also associated with the GAS (Seyle, 1974).

Much of the research on the stress response among teachers has dealt with the physiological response. Pratt (1978), in his stress study involving 124 primary school teachers in England, found that 20% of his sample displayed physiological symptoms and that there was a significant correlation between these symptoms and the reported stress level of the teachers. The correlation was $r = 0.41$

($p < 0.001$) (p. 10). The findings of Goodman (1980) supports the work of Pratt (1978) and others who see a positive correlation between perceptions of stress and physiological symptoms.

Kyriacou and Sutcliffe (1977) identified peptic ulcers and cardiovascular disease as physical manifestations of stress.

Cichon and Koff (1980) summarize their findings in the Chicago Teacher Union Study regarding a stress/disease linkage. They report that over half the respondents to the Chicago Teacher Union Study indicated that stress associated with their jobs resulted in physical illness, and that one-quarter indicated that stress associated with teaching resulted in mental illness. Cichon and Koff state that Chicago public school teachers are saying that their job ". . . is making them sick" (1980, p. 93).

Cichon and Koff report that more than half the respondents (56%) said that they experience physical illness related to their work. Landsman (1978) notes that 84% of the teachers responding to a survey in the Instructor indicated that they felt teaching had a negative impact on their health.

A feeling exists that individuals in the helping professions (e.g., teachers, social workers, nurses, etc.) are under excessive stress (Malinch, 1978). Cherry (1976) reports that generally, stress may occur when the worker does not fit the job well or if the job involves some responsibility for the safety, welfare or behavior of others.

A great deal of concern has been expressed over the physiological response of teachers with disruptive students. Dunham (1977) suggests that

> Teachers respond to the demands of teaching disruptive students in a number of ways. They may respond emotionally by frustration, anger or anxiety. They sometimes play truant. Some of them become sick and psychosomatic symptoms have been reported. A minority leave teaching for less demanding work. Those who have to cope with difficult youngsters need much support from their colleagues and headteachers. (p. 187)

Alfred Bloch (1978), a psychiatrist and director of the Bloch Institute in Los Angeles, has worked extensively with what he describes as "battered teachers" in the Los Angeles Unified School District. He indicates that victims of teacher burnout (over-stressed teachers) have symptoms similar to those exhibited by victims of battle fatigue in World War II. He thus feels that teacher burnout is a sort of "combat neurosis." Bloch associates the following physical symptoms with excessive stress among teachers: nausea, diarrhea, colitis, ulcers, backache, muscular aches, headaches, bronchial infections, nervous tension, high blood pressure, heart palpitations, coronary artery disease, arteriosclerosis (Bloch, 1978).

Goodman (1980, p. 211) concludes based on his study of stress on elementary teachers in Los Angeles Unified that

> The physiological and psychological effects of stress are more severely felt in low SES minority locations than in predominantly white middle class locations.

> Additionally, the whole gamut of physical symptoms associated with stress are more frequently reported in low SES black schools than in either white or Hispanic schools.

Freundenberger (1974), commenting on staff burnout, indicated the following physical symptoms: a feeling of exhaustion and fatigue, the inability to shake a lingering cold, frequent headaches, gastrointestinal disturbances, sleeplessness, and shortness of breath.

Teacher stress, or as it is now being described in popular journals, "teacher burnout," has become a significant issue for teachers in general. The journals cite cases of creative talented teachers "burning out" and leaving the profession. One such teacher, now a freelance writer, writes in Learning Magazine, a popular journal for elementary teachers, about the advent of burnout symptoms. He states that some symptoms are

> being tired all the time, sleeplessness, depression, and feeling physically run down. Teachers experiencing burnout often have minor physical maladies such as frequent colds, headache, dissiness of diarrhea. If unchecked these ailments may turn into ulcers, colitis, or asthma, or they may cause loss of sexual interest. (Hendrickson, 1979, p. 39)

Based on a review of the growing number of stress-related articles for teachers in popular journals, it seems obvious that the issue of the stressful nature of the teaching profession and the possible negative implications of such stressful employment on one's health has become a key issue on the minds of many teachers.

Concern arises over the high degree of burnout among teachers working with low SES students (Bloch, 1978). Anger on the part of the teacher is often the result of exposure to abusive language. This anger is often combined with ill feeling and frustration due to a perception of non-support from administration. Since it is "unprofessional" to vent anger directly at children, and it would be costly or inappropriate to become angered with the administration, the anger is often suppressed.

In summary, physiological responses to teacher stress account for a great deal of the concern surrounding the issue of teacher stress.

Psychological Responses to Teacher Stress

That stress affects teachers on their jobs is clear. Having to respond to bells, deal with large groups of children in a small place for long periods, handling the demands of administrators and parents--all these things, even on the surface, seem quite stressful. Studies have noted that many young people entering student teaching find teaching an extremely stressful career and leave the programs early or never actually teach (McNiel, 1967).

The first major U.S. studies to highlight the impact of stress on teachers were conducted by the National Education Association (NEA). In the 1951 NEA study, 43% of a sample of 2,299 teachers reported that they were working under considerable stress and tension. In the 1967 NEA study, 16.7% of

the teachers sampled indicated that they were under considerable strain as a result of teaching. Moderate strain was indicated by 61.7% of the sample. Therefore, 78% of the total indicated that they were under "moderate" to "considerable" stress. Some evidence suggests that single female teachers suffer more anxiety than married females (Powell & Ferrano, 1960).

Coates and Thoresen (1976) report that

> The incidence of various types of maladjustment, particularly anxiety among teachers, has received considerable attention since early in this century. Hicks (1933), in a survey of 600 teachers, found that 12 percent were "unusually nervous" and another 11 percent had suffered from nervous breakdown. Peck (1933) found that 33 percent of a sample of 110 female teachers suffered from nervous symproms and Randall (1951) reported that 10 percent of teacher absences of 10 days or more were reportedly due to nervous conditions" (e.g., fatigue, prolonged menstrual disorders and situational reactions). (Coates & Thoresen, 1976, p. 160)

Bentz (1971) quotes figures from an NEA stress study completed in 1954 which indicates that one out of every three teachers in the United States is an eventual victim of nervous breakdown and that one out of every six experiences a serious psychological illness sometime in his/her life.

A question of note is whether or not the stress level of teachers is higher than those in other occupational groups. Shipley (1961) indicates that the level of

emotional disturbance among teachers is higher than persons in many other occupational groups. In his study, which looked at those applying to the Mayo clinic, the occurrence of emotional illness among teachers was 55% as compared to 17% among physicians, 9% among railroad engineers, 19% for dentists and 30% for lawyers.

A study completed by Bentz (1971) did not find the mental health of teachers to differ radically from that of the surrounding community. However, the sample population was drawn from a "highly rural and stable population" (Bentz, 1971, p. 73). A full 86% of the respondents were reared and spent most of their lives on a rural farm or small town. Furthermore, the population included few professionals or others in the helping professions, whose job stress might compare to that of teachers. The non-representational nature of this sample may render it incomparable to the less stable urban population which makes up the majority of the United States. Thus, any generalization of his findings would likely lead to error. Bentz noted this limitation in his study. He does state, however, that

> Although the present data indicates that the problem of emotionally maladjusted teachers has not reached alarming proportions, we should not overlook the fact that one of three teachers reported mild to moderate symptoms of emotional illness. (Bentz, 1971, p. 75)

Pratt (1978) reports that

> Unpublished data from Cherry (1976) extracted from the National Survey of Health and Development shows that teachers report themselves as being under more nervous strain than most other groups of workers. (p. 4)

Dunham (1977) indicates extremely high anxiety levels for teachers in residential schools for maladjusted children.

The literature does tend to view teaching as a stressful profession and it moves towards a notion that teaching is one of the more stressful professions. It definitely moves in a direction which would come to tie the act of teaching with a negative psychological response.

Cichon and Korr (1980) report that

> About one quarter of the teachers indicated they experienced mental illness they felt was related to their employment. It is interesting to note, however, only about 15 percent of the teachers indicated that they had missed six or more work days due to illness. (p. 96)

Teacher Stress and the Student

A major policy question involves the issue of the impact of teacher stress on students. One might logically deduce that a stressed teacher does not work at an optimal level. Much concern has been voiced in the business world about decreased productivity as a result of undue stress on the worker (Greenwood, 1980). There has been some stress work in the field of education which indicates that teachers under extreme stress pass this stress on to the students.

Bentz (1971) is concerned that the teacher be in top

mental health in order that the child be given the opportunity to develop properly.

Doyal and Forsyth (1973), assessing teacher anxiety with the Taylor Manifest Scale (Taylor, 1953) and third grade students' test anxiety with the Test Anxiety Scale for Children (Sarason, Davidson, Lighthall, Waite, & Ruebush, 1960), found a positive correlation between teacher anxiety and that of their students.

In a review of the literature of the effect of teacher anxiety on students, Coates and Thoresen (1976) stated that "These studies suggest that, at some level, anxiety in classrooms may become detrimental both to teachers themselves and to their pupils" (p. 169). If teacher stress does affect students, the potential numerical and negative significance may be phenomenal. On the basis of minimum incidence statistics and pupil-teacher ratios in 1957, Kaplan (1959) estimated that anxiety may affect as many as 200,000 teachers and through them, five million pupils!

Coping With Stress

No author has provided a single cure for stress. Stress affects individuals in many different ways. What is stressful for one individual is not for another (Seyle, 1975). Thus, remedies for stress must be varied and person-specific.

Man has coped with stress in many different ways, and some of these coping mechanisms have become habitual in nature. Popular coping methods include the use and abuse

of alcohol, tobacco, tranquilizers, marijuana, and other drugs. Although the utilization of such chemical stress reducers may sometimes be appropriate, depending on the nature of the stressor and the specific effect of that stressor on an individual, the teacher stress literature cites no experimentation with the introduction of foreign substances for the purpose of stress reduction. Studies like the Chicago Teacher Union Study (1968) did, however, provide statistics on the degree of use of specific stress-reducing drugs among teachers. This review will thus more specifically consider non-chemical stress reduction techniques and coping mechanisms as they apply to teachers.

Studies of the Effects of Various Stress Reduction Techniques Upon Teachers

According to Coates and Thoresen (1976), techniques which have been developed for use in stress reduction fall into two categories: (1) those employing teaching skills training, and (2) those using some method for teaching relaxation skills. Of the six studies employing teaching skills training, two reported no treatment effect (Eder, 1971; Hughes, 1970) and three other studies showed weak or questionable effects.

Suskind, Franks, and Lonoff (1968) intervened with experienced teachers using desensitization and counseling. They found no difference between control and experimental groups using an author-constructed anxiety and emotion reaction scale. Thoresen and Mahoney (1974) used desensiti-

zation and behavior analysis training on six experienced teachers. Observation of teachers after training resulted in mixed results.

Dunham (1977) states the following in regard to the adaption to stress on the part of teachers.

> When stress situations become too great, teachers may attempt to protect themselves by withdrawing from them. Absenteeism, truancy, leaving teaching, sickness, absence and early retirement are some of the obvious forms of withdrawal. (p. 183)

Simpson (1976) argued that sickness allows teachers to take a stress leave from work without making a permanent break.

According to Davidson and Schwartz (cf. Coates & Thoresen, 1976), teachers who experience anxiety primarily cognitively (i.e., racing thoughts, inappropriate cognition) may benefit by techniques such as self-hypnosis, meditation, and progressive muscle relaxation, while physical exercise may be appropriate for those experiencing physical or somatic tension.

Behavioral self-management offers a promising approach to reducing teacher stress (Goldfriend & Merbaum, 1973; Kanfer & Phillips, 1970; Thoresen & Mahoney, 1974). Hendricks, Thoresen, and Coates (1975) used control cue relaxation on two experienced teachers. A reduction in anxious behavior was found for both teachers, as measured by observation and by the State-Trait Anxiety Inventory.

Coates and Thoresen conclude from their 1976 study:

> To date the most promising results have been obtained from methods based on systematic desensitization and relaxation strategies and from experiences designed to provide teachers with specific instruction in classroom techniques (e.g., a methods course in micro teaching). (Coates & Thoresen, 1976, p. 45)

Maslach, in an in-depth study into coping mechanisms of helping professionals (1977) found the following methods to be utilized in the coping process:

1. Detachment. This occurs when the professional detaches him or herself from the client or student. The teacher might develop a notion of them or us, which lessens the likelihood of emotional overload.

2. Intellectualization. This involves the intellectualization and abstraction of the relationship between the student and the teacher. Intellectualization might involve detachment as the teacher extricates herself from the unpleasant realities of day-to-day teaching and comes to understand or view these realities in abstract intellectual terms. This allows these realities to be less emotionally wounding.

3. Situational compartmentalization. This process would involve total separation of work life from home life. Teachers isolate the stress of the school environment at the school site and blot thoughts of school out as they head home.

4. Psychological withdrawal is accomplished via strict adherence to rules and regulations. It involves a process

of depersonalization of the student, resulting in the creation of added social distance between the student and the teacher, a formalization resulting in diminished personal contact.

5. Social techniques of withdrawal include the indulgence in "black humor" (e.g., similar to M.A.S.H.) where harsh realities are transformed into laughable subjects.

6. Semantic detachment involves a continued depersonalization of relationships, usually accomplished by the ascription of negative or impersonal names for the students (e.g., them, animals, etc.).

According to Maslach, "the helping professional's attempts at psychological self-protection may come at the expense of the recipients" (1977, p. 6).

The following discussion will deal with some techniques (external interventions) which have potential utility for the reduction of stress.

Biofeedback. Biofeedback is a process of monitoring one or more physiological functions with some mechanical device. The feedback device monitors a specific function and feeds it back in an auditory or visual form. The theoretical notion is that via this feedback an individual will learn to develop control over the function being monitored.

Following are descriptions of devices used in biofeedback:

1. The Feedback Thermometer allows an individual to be aware of an increase in the temperature in his hands.

Diamond (1977) found this technique helpful in reducing migraine headaches.

2. The Electromyograph allows an individual to be aware of tension in the forehead area. Greenwood (1979) found this method useful in relief of tension headaches. Kailins and Andrews (1972) found it useful for the follwoing problems: subvocalizing, paralysis, anxiety, inability to relax, and depression.

3. The Dermograph measures and allows individuals to be aware of the temperature of the skin, the Galvanic Skin Response (GSR). The GSR reflects activity in the central nervous system via skin temperature of the hands. Thus, an individual has a way to monitor the output of the central nervous system and may attempt to control his stress response (Greenwood, 1979).

4. The Electroencephalograph allows feedback on brain wave patterns. Special concern centers around alpha waves which seem to have a strong relationship to relaxation.

Utilization of biofeedback may prove to be an effective intervention in terms of teaching some teachers to effectively cope with undue stress.

Psychological Therapies. Numerous psychological therapies have arisen which claim to be effective in teaching individuals to cope with stress. Three therapies which have gained some popularity in that area are: transactional analysis, rational-emotive therapy, and assertive therapy.

Methods of meditation including transcendental meditation and yoga have also been found to be effective in the reduction of stress in some cases. Diet and exercise are considered to be effective factors in the reduction of stress by Newbold (1975) and Seyle (1974), among others.

The Costs of Teacher Stress

The costs of teacher stress will be divided into two sub-categories: economic costs of stress, and educational costs of stress.

Economic Costs of Teacher Stress

Work on assessing the dollar costs of teacher stress is surely in a very basic state. Greenwood (1979) states that "the extant literature does not reveal reports of any work in the formulation of models for assessing the costs of executive stress, to the individual, the employing organization, or to the national economy" (p. 128).

The author of this work was unable to find any literature outside the work of Greenwood for assessing economic costs of stress. What follows is a short review of the work of Greenwood (1979) as it relates to the economic costs of teacher stress, and an analysis of its possible implications and applicability.

Greenwood and Greenwood (1979) indicate that the following cost factors are associated with stress: (1) the cost of mental and physical illness, (2) the cost of accidents, (3) costs related to lowered rates of efficiency,

(4) costs related to increased rates of turnover, (5) costs related to non-turnover, (6) costs related to death. In an era of shrinking budgets and rempant inflation, effective means for improving productivity and efficiency should be investigated. Conservation of human resources is likely even more significant than mere dollar losses.

Greenwood and Greenwood further break the economic cost factors tied to stress into the following categories: (1) tangible costs, which may be either directly or indirectly measurable; (2) intangible costs; (3) unidentifiable costs. Some of the tangible and measurable costs of stress listed by Greenwood and Greenwood include work loss, medical and hospital expenses, insurance premiums, tort claims, and decreased productivity. Other less tangible factors were said to include poor human relations and poor family relations.

Data collected by Goodman (1980, p. 114) in a self-report questionaire given to elementary school teachers in Los Angeles indicated that 49% of teacher absence is related to stress. He projected costs to the district in excess of 7 million dollars for the years 1979-1980, due to this factor alone.

Work on the assessment of the actual economic or dollar costs of stress is a complex issue. This is due to the following factors: (1) much of the data required to complete such a study is not kept or is unavailable; (2) there are difficulties involved in measurement due to "fixed costs" (i.e., the utilization of pre-paid medical

plans); (3) the loss in productivity (student learning) is difficult to measure due to the infancy of, and the difficulties inherent in, the exact measurement of learning.

Investigation into the various costs of teacher stress appears to be a fertile field of endeavor. For, given the nature of our society, determination of the actual dollar costs of stress may be one of the most productive and effective means for transforming concern over undue stress into actions aimed at its reduction.

Educational Costs of Teacher Stress

Doyal and Forsyth (1973) indicated a positive association between teacher anxiety (using the Taylor Manifest Anxiety Scale) (Taylor, 1953), and the test anxiety of tird grade children (using the Test Anxiety Scale for Children) (Sarason, Davidson, Lighthall, Waite, & Ruebush, 1960). Another study considering the same variables (Staton, 1974), but with sixth and seventh grade students, found significant negative correlations. This study was completed using the State-Trait Anxiety Scale (Spielberger, Gorsuch, & Lushene, 1969). In a review of the literature on the effects of teacher stress on children, Coates and Thoresen (1976) indicated that "These studies suggest that, at some level, anxiety in the classroom may become detrimental both to teachers themselves and their pupils" (p. 169).

> Teachers who feel physically unwell (as a result of undue stress) soon find themselves depressed by the symptoms.

> It is difficult to play kickball with the kids when you are tired and slightly dizzy. It is difficult to get excited about a topic when you are uncomfortable and "out of sorts" all the time. (Hendrickson, 1979, p. 37)

Maslach (1977), in an in-depth study of the effects of burnout concludes that as the state of burnout in the helping professional progress "the professional no longer has any positive feelings or sympathy, or respect for patients or clients" (p. 3). Thus although research is severely limited what evidence there is, suggests the possibility that lowered student achievement may result from increasing teacher stress.

Implications of Teacher Stress

For the Individual Teacher

The implications of stress on teachers can vary from the inconsequential to the highly significant, depending on the intensity of the stressor and the ability of the individual teacher to cope with the stressor. Some teachers (who may otherwise enjoy the profession) may be forced to leave a field for which they were trained due to the unbearable levels of stress, which can have physical impacts varying from a simple twitch to death by cardiac arrest. Psychological-emotional impacts on teachers range from occasional anger or rage to complete breakdown and even intensive psychiatric care and institutionalization. The impacts of stress may carry over into the teacher's home life, resulting in negative interactions with children and

spouse, sometimes resulting in divorce or separation. It may lower a teacher's self-confidence, take the joy out of work, and cause depression. It may distance the teacher from his students or even dehumanize them. It can inhibit the teacher from effectively performing his/her job.

Thus, excessive stress has the potential of lowering the physical, emotional, educational and psychological qualities of a teacher's life.

A complete understanding of teacher stress, its manifestations and implications, seem essential in order to promote a satisfied and productive teaching force.

Implications for Schools and the Students

Changes in the physical and mental health of teachers seems to impact (often negatively) on both students and schools. A review of the literature suggests that there may be causal connections in which negative behavioral and learning outcomes are associated with high stress levels among teachers. Thus, the impact of undue stress on teachers may result in some of the following negative outcomes: (1) high anxiety levels among students; (2) lowered achievement levels among students; (3) lowered school morale; (4) increased negative feelings among students towards teahcers; (5) reduced community support.

Preliminary investigations seem to indicate that increasing levels of teacher stress make a negative impact on student learning. Further investigation into the many

possible relationships between teacher stress and student behaviors may shed more light onto this relatively unexplored area.

Implications for Society

The education of youth is one of the main obligations of any society. In a certain sense excessive stress is a signal that something is wrong in the educational process, that something is not working. And who would be more sensitive to the subtleties of the non-functional nature of the educational system than the teacher who has his/her hand on the pulse of the problem?

It is interesting to note that Bloch (1978), Goodman (1980), Pratt (1978), and others report higher stress in low SES urban areas, where most educational experts believe our educational systems are working least effectively. It is unlikely that this relationship is purely coincidental. Much of the stress associated with urban teaching may lie in the failure of the system to effectively work in those urban low SES areas. Furthermore, if high stress is isolated in low SES pockets as suggested, it further disadvantages an already disadvantaged group within our society. Restating the above in a more positive fashion, one might say that lowering the stress level of teachers may result in positive educational outcomes for students, for the community, and for society at large.

Adams, A. Personnel Analyst, Los Angeles Unified School District. Personal interview by Dwayne Barnett, March 6, 1979.

Appley, M. H., & Turnbull, R. On the concept of psychological stress. In M. H. Appley and R. Turnbull (Eds.), Psychological stress: Issues in research. New York: Columbia University Press, 1967.

Bell, S. Integration specialist, Los Angeles Unified School District. Personal interview by Victor Goodman, August 1980.

Bentz, W. K., Hollister, W. G., & Edgerton, J. W. An assessment of the mental health of teachers: A comparative analysis. Psychology in the Schools, 1971, 8, 72-76.

Bergagen, L. Is teaching hazardous to your health? Today's Education, April-May 1978, 67(1), 49.

Bloch, A. Battered teachers. Today's Education, March-April 1978, 64(2), 58-62.

Bruno, J. E. Educational policy analysis: A quantitative approach. New York: Crane, Russak, & Company, 1976.

Bull, A. J., Burbage, S. E., Crandall, J. E., Fletcher, C. I., Lloyd, J. T., Ravenberg, R. L., & Rocket, S. L. Effects of noise and intolerance of ambiguity upon attraction for similar and dissimilar others. Journal of Applied Psychology, 1972, 88, 151-152.

Buss, A. H. The psychology of aggression. New York: John Wiley and Sons, 1967.

Cannon, W. The wisdom of the body. (rev. ed.) New York: Norton, 1939. (Norton Library Paperback, 1963.)

Cherry, N. Personal communication of unpublished data from the National Survey of Health and Development (Medical Research Council, 20 Harvey Place, London, WIP OAJ), reported in Pratt, J., 1978.

Chicago Teachers Union, AFT Local 1. Stress study in cooperation with Roosevelt University and University of Illinois School of Public Health, 1968.

Cichon, D., & Koff, J. A paper presented to the annual meeting of the American Educational Research Association (62nd, Toronto, Ontario, Canada) March 1978.

Cichon, D., & Koff, R. H. Stress and teaching. NASSP Bulletin, 1980, 64(434), 45-61.

Coates, T., & Thoresen, C. Teacher anxiety: A review with recommendations. Review of Educational Research, 1976, 46(2), 139-154.

Diamond, S. More than two aspirin. New York: Follett, 1977.

Dodge, D., & Martin, W. Social stress and chronic illness. Notre Dame, Indiana: University of Notre Dame Press, 1970.

Dohrenwend, B. P., & Dohrenwend, B. S. Social status and psychological disorder. New York: Inter-Science Press, 1969.

Dohrenwend, B. P., & Dohrenwend, B. S.(Eds.) Stressful life events: Their nature and effects. New York: John Wiley and Sons, 1974.

Doyal, G. T., & Forsyth, R. A. Relationship between teacher and student anxiety levels. Psychology in the Schools, 1973, 10, 231-233.

Dunham, J. The effects of disruptive behavior on teachers. Educational Review, June 1977, 19(3), 181-187.

Eastwood, M. R., & Trevelyan, M. H. Relationship between physical and psychiatric disorders. Psychological Medicine, 1972, 2, 363-372.

Eder, C. S. The effects of group counseling upon the classroom behavior and on the manifest anxiety of elementary school student teachers. U.S. Educational Resources Information Center, ERIC Document #ED 052170, 1971.

Freud, S. The problem of anxiety. New York: The Psychoanalytic Quarterly Press, 1936.

Freundenberger, H. J. Staff burn-out. Journal of Social Issues, 1974, 30(1), 159-165.

Friedman, M., & Rosenman, R. H. Type A behavior and your heart. New York: Alfred A. Knopf, 1974.

Gasner, H. Is the office ruining your health? Mainliner, 1976, 43-45.

Geen, R. G. Effects of attack and uncontrollable noise on aggression. Journal of Research in Personality, 1978, 12, 12-15.

Gittel, M. Urban school reform in the '60's. Education and Urban Society, November 1968, 9, 9.

Gmelch, W. H. Beyond stress to effective management. U.S. Educational Resource Information Center, ERIC Document #ED 140 440, 1980.

Gmelch, W. H. The principal's next challenge: The twentieth century art of managing stress. NASSP Bulletin, 1978, 62(415), 5-12.

Goldfriend, M. R., & Merbaum, M. Self control and behavior change. New York: Holt, Rinehart and Winston, 1973.

Goodman, V.B. Teacher-Absenteeism-Stress in Selected Elementary Schools: An Assessment of Economic and Human Costs. Unpublished doctoral dissertation. University of California, Los Angeles. University Microfilms International #8111226, Ann Arbor, Michigan, 1980.

Greenwood, J. W., III, & Greenwood, J. W., Jr. Managing executive stress: A systems approach. New York: John Wiley and Sons, 1979.

Hackman, J. R., & Lawler. E. Employee reactions to job characteristics. Journal of Applied Psychology Monograph, 1971, 60, 159-170.

Halpern, R. L. A study of the sources, manifestations and magnitude of stress among student teachers at UCLA. Unpublished doctoral dissertation, University of California, Los Angeles. Dissertation Abstracts International, 1967, 27(8-A), 2359.

Hendricks, C. G., Thoresen, C. E., & Coates, T. J. Self managing stress and tension. Stanford University, Stanford Center for Research and Development in Teaching, 1975.

Hendrickson, B. Teacher burnout: How to recognize it; what to do about it. Learning, 1979, 1, 37-41.

Hodge, J., & Marker, P. Assessing teacher stress: A beneficial task for administrators. American Secondary Education, December 1978, 8(4), 49-53.

Holmes, T., & Rahe, R. Stressors. Journal of Psychosomatic Research, 1967, 11(213), 18. (a)

Holmes, T., & Rahe, R. The social readjustment rating scale. Journal of Psychosomatic Research, 1967, 11, 213-218. (b)

Holmes, T., & Masuda, M. In Dohrenwend, B. P. and Dohrenwend B. S. (Eds.), Stressful life events. New York: Wiley, 1974.

Hughes, K. A. The effect of microteaching and student teaching on scales of dogmatism, anxiety, and attitudes of prospective elementary teachers. Unpublished doctoral dissertation, University of South Dakota. University Microfilms # 70-5301, Ann Arbor, Michigan, 1970.

Jersild, A., Lazar, E., & Brodkin, A. The meaning of psychotherapy in the teacher's life and work. New York: Teachers College, Columbia University, 1962.

Kahn, R. L., & Quinn, R. P. Role stress: A framework for analysis. In A. Mclean (Ed.), Mental health and work organizations. Chicago: Rand McNally, 1970.

Kahn, K., Wolfe, D., Quinn, R., & Snoek, J. Organizational stress; Studies in role stress and ambiguity. New York: John Wiley and sons, 1964.

Kalins, M., & Andrews, L. Biofeedback: Turning on the power of the mind. Philadelphia: Lippincott, 1972.

Kanfer, F. W., & Phillips, J. S. Learning foundations of behavior therapy. New York: John Wiley, 1970.

Kaplan, L. Mental health and human relations in education. New York: Harper and Row, 1959.

Karasek, R. A. A stress-management model of job strain. Working paper, Swedish Institute for Social Research, Stockholm University, 1978.

Karasek, R. A. Job demands, job decision latitude, and mental strain: Implications for job redesign. Administrative Science Quarterly, 1979, 24, 258-309.

Karlins, M., & Lewis, M. Biofeedback: Turning on the power to your mind. Philadelphia: Lippincott, 1972.

Kerchoff, A. C., & Back, K. W. The June bug. New York: Appleton-Century-Crofts, 1968.

Kornhauser, A. The mental health of industrial workers. New York: Wiley, 1965.

Kyriacou, C., & Sutcliffe, J. Teacher stress: A review. Educational Review, 1977, 29(4), 299-306.

Kyriacou, C., & Sutcliffe, J. Teacher stress: Prevalence, sources, and symptoms. British Journal of Educational Psychology, 1978, 48, 159-167. (a)

Kyriacou, C., & Sutcliffe, J. A model for teacher stress. Educational Studies, 1978, 4(1), 1-6.

Landsman, L. Is teaching hazardous to your health? Today's Education, April-May 1978,(67 1), 48-50.

Lazarus, D. S. Psychological stress and the coping process. New York: McGraw-Hill, 1966.

Lazarus, R. S., Desse, J., & Osler, S. The effects of psychological stress upon performance. Psychological Bulletin, 1952, 49, 293-317.

Lortie, D. C. Schoolteacher: A sociological study. London: University of Chicago Press, 1975.

Lowenstein, L. F. Violent and disruptive behavior in the schools. Hemel Hemstead: National Association of Schoolmasters, 1975.

Margolis, B. L., Kroes, W. H., & Quinn, R. P. Job stress: An unlisted occupational hazard. Journal of Occupational Medicine, 1974, 6(10), 654-661.

Maslach, C. Burned out. Human Behavior, 1976, 1, 16-22.

Maslach, C. Burnout: A social psychological analysis. Paper presented to the annual convention of the American Psychological Association, San Francisco, August 1977.

Maslach, C. The client role in staff burnout. Journal of Social Science Issues, 1978, 34(4), 111-124. (a)

Maslach, C., & Jackson, S. The measurement of experienced burnout. Unpublished paper, University of California, Berkeley, 1978. (b)

McGrath, J. W. (Ed.), Social and psychological factors in stress. New York: Holt, Rinehart and Winston, 1976.

McLaughlin, J. W., & O'Shea, J. T. California teachers' job dissatisfaction. California Journal of Educational Research, 1960, 11, 216-224.

McNeil, J. D. Initial teaching in poverty versus affluent schools: Effect upon teacher stress, attitudes, and career choices. U. S. Educational Resources Information Center, ERIC Document #ED 024 649, 1968.

Mechanic, D. Students under stress: A study in the social psychology of adaption. Madison, Wisconsin: University of Wisconsin Press, 1978.

Monat, A., & Lazarus, R. S. (Eds.), Stress and coping: An anthology. New York: Columbia University Press, 1977.

National Education Association, Department of Classroom Teachers. Fit to teach: A study of the health problems of teachers. Washington, D. C.: NEA Department of Classroom Teachers, 1938.

National Education Association. Teaching load in 1950. Research Bulletin, 1951, 29(1), 3-50.

National Education Association. Teachers' problems. Research Bulletin, 1967, 45, 116-117.

Negrette, E. Personnel specialist, Los Angeles Unified School District. Personal interview by Victor Goodman, June 1980.

New York State Teacher's Union. Teacher stress survey. Albany, New York: New York State United Teachers Research and Educational Services, 1979.

Newbold, H. L. Mega nutrients for your nerves. New York: Wyden, 1975.

Oslander, H. T., & Farrell, M. E. Professional problems of elementary teachers. Journal of Teacher Education, 1970, 21, 275-280.

Parsons, J. S. Assessment of anxiety about teaching using the Teaching Anxiety Scale: Manual and research report. Paper presented to the annual meeting of the American Educational Research Association, 1973.

Payne, J. Educational priority, Vol 2. EPA Surveys and statistics. London: HSMO, 1974.

Powell, M., & Ferraro, C. D. Sources of tension in married and single women teachers of different ages. Journal of Educational Psychology, 1960, 12, 92-101.

Pratt, J. Perceived stress among teachers: The effects of age and background of children taught. Educational Review, 1978, 3(1), 1013-1020.

Rabkin, J., & Struening, E. Life events, stress and illness. Science, 1976, 194, 1013-1020.

Reed, S. What you can do to prevent teacher burnout. Elementary School Principal, 1979, 58(3), 67-70.

Roth, R. H. Incongruence of perceived role expectation and positional stress: Secondary school teachers in England and the United States. Unpublished doctoral dissertation, Duke University. Dissertation Abstracts International, 1978, 28(10-A), 4290-4291.

Rudd, G. A., & Wiseman, S. Sources of dissatisfaction among a group of teachers. British Journal of Educational Psychology, 1962, 32(3), 275-291.

Sarason, S. B., Davidson, K. S., Lighthall, F. F., Waite, R. E., & Ruebush, R. V. Anxiety in elementary school children. New York: John Wiley, 1960.

Selye, H. The stress of life. New York: McGraw-Hill, 1956.

Seyle, H. Stress without distress. New York: Lippincott, 1974.

Shipley, K. An assessment of the mental health of teachers: A comparative analysis. Psychology in the Schools, 1971, 8, 72-76.

Sherrod, D. R., & Down, R. Environmental determinants of activism: The effects of stimulus overload and perceived control on helping. Journal of Experimental Social Psychology, 1974, 10, 468-479.

Simpson, J. The times they are a failin'. The Guardian, 1974, 13, 45-47.

Spielberger, C. D., Gorsuch, C. M., & Lushene, R. E. The state-trait anxiety inventory. Tallahassee, Florida: Florida State University, 1969.

Springer, H. Personal interviews, Los Angeles, California, June - August 1979.

Staton, L. Relationship between teacher anxiety level and test anxiety level of students. Psychology in the Schools, 1974, 11, 360-363.

Suskind, D. J., Franks, C. M., & Lonoff, R. Desensitization program with third- and fourth-grade teachers: A new application and a controlled study. Paper presented at the meeting of the Association for the Advancement of Behavior Therapy, Washington, D. C., September 1969.

Taylor, R. Taylor Manifest Anxiety scale. Journal of Abnormal and Social Psychology, 1953, 48, 285-290.

Taylor, J. K., & Dale, I. R. A survey of teachers in their first year of service. Bristol, University of Bristol, 1971.

Thoresen, V. E., & Mahoney, M. J. Behavioral self-control. New York: Holt, Rinehart and Winston, 1974.

Tubesing, D., & Tubesing, N. Unpublished paper adapted from Type A behavior and your heart, 1976.

Ward, L. M., & Suedfeld, P. Human responses to highway noise. Environmental Research, 1974, 6, 306-326.

Whitehorn, J. C. Introduction and survey of the problems os stress. Paper presented at the Symposium on Stress, Washington, D. C., Walter Reed Army Medical Center, Army Medical Service Graduate School, 1953.